

REMARKS

This is in Response to the Office Action dated May 10, 2010. Applicants have cancelled claims 67-72. New claims 73-81 have been added. Claims 61-66 and 73-81 are currently pending in the Application and stand rejected. Applicants have amended claims 61-66. Support for these amendments and for the new claims is found in the Specification, for example, in paragraph [0026], [0028], [0033], Example 12 and originally filed claims. No new matter was added.

The Office Action rejected claims 61-62, 65, 67-68 70 and 72 under 35 U.S.C. 103(a) as being unpatentable over Stolle et al, and Emery et al. in view of Van Donkersgoed. The Office Action indicated that Stolle et al. teach a method for passively immunizing a mammal with heterologous antibody obtained from an immunized fowl which has been immunized against an antigenic substance and that any antigen or combination of antigens can be employed including those listed in the Specification. The Office Action alleged that the method (of Stolle et al.) teaches feeding the mammal a material having an enhanced antibody titer against an antigen obtained from the egg of fowl immunized against the antigen and administering to the mammal an immunologically effective amount of antibody. The Office Action indicated the steps included in the method such as using mixed bacterial strains for inoculation, antigen selection, sensitization of the fowl by primary immunization, testing of serum, administration of boosters, testing antibody level in egg yolk, collecting eggs during immunized state, pasteurization and parenteral carriers. The Office Action indicated that the method is useful in humans and that the modes of administration include oral and parenteral administration. The Office Action alleged that parenteral administration involves piercing the skin or mucous membrane, while oral administration includes administration to the enteral/digestive tracts and respiratory tracts including gbronchi, alveolar sacs and alveoli using liquids, such as inhalers, nebulizers, vaporizers and the like. The Office Action also alleged that oral administration can be used to treat diseases and that those of skill in the art can readily ascertain the amount of egg product or avian antibody to give to the mammal. The Office Action also indicated that Stolle et al teaches that the compositions can be used in the form of premixed food products or egg materials.

The Office Action indicated that Emery et al. teach immunizing a bird to provide passive immunity protection against bacterial pathogens, teach the avian-derived immunoglobulins

provides a higher level of specificity and a reduced amount of undesirable side effects as compared to immunoglobulins derived from mammalian serum. The Office Action also alleged that immunization will stimulate the female bird to produce eggs containing high level of immunoglobulin that can be separated and purified. The Office Action indicated that Emery et al teach locations of the antibodies and separation from the shell and yolk and combining the egg resulting product with carriers, additives and preservatives. The Office Action indicated that both Stolle et al and Emery et al teach the use of *Haemophilus* but neither specifically recite *Haemophilus somnus*. The Office Action indicated that Van Donkersgoed et al. teach vaccination protocols on passive immunity to *Pasteurella haemolytica* and *Haemophilus somnus* for combined vaccination and that higher antibody titers can be achieved in animals receiving passive administration of the combined vaccine.

The Office Action concluded that it would have been *prima facie* obvious to one of ordinary skill in the art to incorporate inoculation of *Haemophilus somnus*, as taught by Van Donkersgoed et al., to the method of decreasing animal respiratory illness as taught by Stolle et al. and Emery et al. in order to provide more efficient passive immunization results. The Office Action also concluded that one of ordinary skill in the art would have a reasonable expectation of success. The Office Action also alleged that one of ordinary skill would have been motivated to make such a combination because Stolle et al. and Emery et al. teach primary immunization with specific antigens and all the claimed elements were known in the prior art.

Applicants respectfully disagree. Applicants assert that the combination of the Stolle et al., Emery et al. and VanDonkersgoed et al. does not teach the present invention and furthermore a person of ordinary skill in the art does not have a reasonable expectation of success that the invention as claimed would be successful. Applicants assert that Stolle et al. relates to passive immunization and provides a laundry list of bacteria and viruses that may be used as antigens. Applicants assert that there is no disclosure of spraying an egg mixture into the respiratory tract of an animal, let alone any detailed methodology related to this. Stolle et al. indicates that antibody is preferred to be administered by oral or parenteral injection which is very different than the spraying into the respiratory tract. Stolle et al also indicates that oral administration is effective for mouth and gastrointestinal tract. See Stolle et al. col. 6, lines 44-46. There is no disclosure related to spraying in the respiratory tract for treating respiratory illnesses.

Furthermore, Stolle et al. teaches purification of the antibody from the eggs and it is the purified antibody that is administered to the mammal. See col. 6, lines 50-55 and col. 8, lines 33-35. There is no disclosure that an unpurified egg mixture can be sprayed into an animal's respiratory tract to treat respiratory illnesses as disclosed in the present invention.

Applicants assert that Emery et al. generally teaches passive immunization and specifically teaches purification of antibodies obtained from fowl. In Emery et al., all of the administration is of highly purified antibody, not an egg mixture as in the present invention. Applicants assert that the advantages of using the egg mixture include eliminating the high cost of obtaining a highly purified antibody. Furthermore, one of ordinary skill in the art would not expect the use of an egg mixture for coating the respiratory tract would be successful because the desired antibody would not be highly purified and therefore, would not be effective. Applicants' disclosure is the first to show the use of an unpurified egg mixture that can be used to coat the respiratory tract to lead to decrease in the incidence of respiratory illnesses.

Applicants assert that Van Donkersgoed et al. merely relates to vaccination of the beef cows and/or the calves and relates to maternal transfer of *Haemophilus somnus* antibodies to calves. There is no disclosure related to use of heterologous antibodies from fowl or to coating the respiratory tract with *Haemophilus somnus* antibodies to decrease the incidence of respiratory illness.

Applicants assert that none of the cited art, alone or combined, teach the use of an egg mixture as a mixture to coat the respiratory tract of an animal to decrease the incidence of respiratory illnesses in animals. Based on this discussion, Applicants respectfully request the removal of the rejections over Stolle et al., Emery et al., and Van Donkersgoed et al.

The Office Action rejected claims 66 and 71 under 35 U.S.C. 103(a) as being unpatentable over Stolle et al, Emery et al, and Van Donkersgoed et al., as applied to claims 61 and 68 and further in view of Kirkwood et al. The Office Action asserted that Stolle et al, Emery et al, and Van Donkersgoed et al. are as stated above and that Kirkwood teach colonization of mucosal surfaces with *H. parasuis* and passive immunity as essential for protection against *H. parasuis* challenges. The Office Action indicated that Kirkwood et al. teach that *H. parasuis* is also known as *H. suis*. The Office Action concluded that it would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate inoculation with *H.*

suis as taught by Kirkwood et al. and that there would be a reasonable expectation of success based on the teachings in Stolle et al, Emery et al, and Van Donkersgoed et al.

Applicants respectfully disagree. Claim 71 has been cancelled. Applicants have amended claims and amended claim 65 now refers to the use of *H. suis* in inoculation of the female birds. Applicants would like to point out that Kirkwood indicated that *H. parasuis* is *S. suis* not *H. suis*. (See page 79, bottom of col. 1). Applicants assert that Kirkwood et al. discloses the presence of *H. parasuis* in nasal mucosal colonization and the use of vaccinations to transfer immunity from sows to piglets. There is no disclosure related to the use of an egg mixture to coat the respiratory tract of an animal as in the present invention. Applicants assert that Stolle et al, Emery et al, and Van Donkersgoed et al. do not obviate the present claimed invention for the reasons discussed above and Kirkwood et al does not provide any teaching that would obviate the invention as claimed in any of the currently amended claims or new claims.

Applicants respectfully request the removal of the rejections over Stolle et al., Emery et al., and Van Donkersgoed et al. and in view of Kirkwood et al.

The Office Action rejected claims 64 and 69 under 35 U.S.C. 103(a) as being unpatentable over Stolle et al, Emery et al, and Van Donkersgoed et al., as applied to claims 61 and 68 and further in view of Nash et al. The Office Action asserted that Stolle et al, Emery et al, and Van Donkersgoed et al. are as stated above and that Nash et al. teach a microbial adherence inhibitor in the form of fowl egg antibodies and that these can be used in a feeding program and works well with the use of additives such as molasses. The Office Action concluded that it would have been prima facie obvious to one of ordinary skill in the art to incorporate the molasses to the contents of the egg product as taught by Nash et al. to the method of decreasing respiratory illness as taught by Stolle et al, Emery et al, and Van Donkersgoed et al. to better distribute the egg material.

Applicants respectfully disagree. Applicants have cancelled claim 69. Applicants assert that independent claim 61 is patentable over Stolle et al, Emery et al, and Van Donkersgoed et al. for the reasons discussed above. Nash et al does not contribute any teaching to obviate claim 61 and merely discloses the use of molasses. Applicants assert that claim 61 is patentable over the cited art and dependent claim 64 is also patentable over the cited art.

Applicants respectfully request the removal of the rejections over Stolle et al., Emery et al., and Van Donkersgoed et al. and in view of Nash et al.

The Office Action rejected claim 63 under 35 U.S.C. 103(a) as being unpatentable over Stolle et al, Emery et al, and Van Donkersgoed et al.; as applied to claims 61 and 68 and further in view of Smith et al. The Office Action asserted that Stolle et al, Emery et al, and Van Donkersgoed et al. are as stated above and that Smith et al teach the use of sodium benzoate.


Applicants have amended claim 63 to remove sodium benzoate as a preservative. This rejection is moot in light of the claim amendment. Applicants respectfully request the removal of the rejections over Stolle et al., Emery et al., and Van Donkersgoed et al. and in view of Smith et al.

Based on the above discussion and the claim amendments, Applicants respectfully request the removal of all of the rejections. Applicants assert that all of the claims, as written, are allowable.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

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